

Title (en)  
SYRINGE PUMP

Title (de)  
SPRITZENPUMPE

Title (fr)  
POMPE À SERINGUE

Publication  
**EP 4054678 A4 20231115 (EN)**

Application  
**EP 20884313 A 20201103**

Priority  
• US 201962931037 P 20191105  
• US 2020058727 W 20201103

Abstract (en)  
[origin: US2021128801A1] A syringe pump to deliver heparin to into the blood circuit of a hemodialysis system. The syringe pump is configured to receive a syringe having a plunger movable within a lumen of an elongate tubular member. The syringe pump may include a housing having a recess configured to receive at least a portion of the syringe, a drive mechanism for moving the plunger within the lumen, the drive mechanism comprising a motor and a lead screw; and a grabber mechanism. The grabber mechanism includes a control arm, back panel, and upper and lower control fingers, the control fingers each have first and second ends, and a curved portion therebetween having a width, an interior edge, and an exterior edge, wherein the first ends of the upper and lower control fingers are coupled to the control arm via first and second spring hinges.

IPC 8 full level  
**A61M 5/145** (2006.01)

CPC (source: EP US)  
**A61M 1/1647** (2014.02 - US); **A61M 1/342** (2013.01 - EP); **A61M 1/3672** (2013.01 - EP); **A61M 1/3673** (2014.02 - US);  
**A61M 5/1456** (2013.01 - US); **A61M 5/1458** (2013.01 - US); **A61M 5/1456** (2013.01 - EP); **A61M 5/1458** (2013.01 - EP);  
**A61M 2005/14573** (2013.01 - US); **A61M 2205/3306** (2013.01 - EP US); **A61M 2205/332** (2013.01 - EP US); **A61M 2209/04** (2013.01 - EP);  
**A61M 2209/08** (2013.01 - EP)

Citation (search report)  
• [X1] US 2003229311 A1 20031211 - G MORRIS MATTHEW [US], et al  
• [X1] CN 108653871 A 20181016 - MEDCAPTAIN MEDICAL TECH CO LTD  
• [X1] US 2018326145 A1 20181115 - JIANG SHENDOU [CN], et al

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)  
**US 2021128801 A1 20210506**; AU 2020380248 A1 20220616; CA 3157480 A1 20210514; CN 114828916 A 20220729;  
EP 4054678 A1 20220914; EP 4054678 A4 20231115; JP 2023500720 A 20230110; WO 2021091912 A1 20210514

DOCDB simple family (application)  
**US 202017088421 A 20201103**; AU 2020380248 A 20201103; CA 3157480 A 20201103; CN 202080086999 A 20201103;  
EP 20884313 A 20201103; JP 2022526334 A 20201103; US 2020058727 W 20201103